

Notice of Allowability

Application No.

09/963,490

Examiner

Anand Bhatnagar

Applicant(s)

FURUSHO, HIROYUKI

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ The drawings filed on 009/27/01 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 09/27/01
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Allowable Subject Matter

1. Claims 1-11 are allowed.
2. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art of Nakamura et al. discloses to detect the left and right lines in front of a vehicle on the road through image processing wherein the image is scanned and the edges are detected by pixel extraction and color analysis. The other closest prior art of Mouri et al. ("Investigation of Automatic Path Tracking Using Extended Kalman Filter (20005494), Society of Automotive Engineers of Japan (October 19,2000) discloses to detect lane markers by graphing the coordinates of the lane markers vs. the steering angle which are displayed in two separate display windows. Regarding claim 1: Neither one teaches nor suggests the feature of "to estimate the road parameters of the road model equation representing a road shape of the road and vehicle attitude with respect to the road, the processor being configured to estimate the road parameters inclusive of a vehicle lateral displacement, by using at least a gradient of the candidate lane marker for one window judged to be lower in the accuracy, and by using an image coordinate of the candidate lane marker for one window judged to be higher in the accuracy," that, in combination with the other claim limitations.

Regarding claim 10: Neither one teaches nor suggests the feature of "estimating road parameters of a road model equation representing a road shape of the road and vehicle attitude with respect to the road, the road parameters

inclusive of a vehicle lateral displacement being estimated by using at least a gradient of the candidate lane marker for one window judged to be lower in the position accuracy, and by using an image coordinate of the candidate lane marker for one window judged to be higher in the position accuracy,” that, in combination with the other claim limitations.

Regarding claim 11: Neither one teaches nor suggests the feature of “means for estimating road parameters of a road model equation, inclusive of a vehicle lateral displacement, by using at least a gradient of the candidate lane marker for one window judged to be lower in the position accuracy, and by using an image coordinate of the candidate lane marker for one window judged to be higher in the position accuracy,” that, in combination with the other claim limitations.

3. Any comments considered necessary by the applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance”. Contact Information

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anand Bhatnagar whose telephone number is

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(703) 306-5914, whose supervisor is Amelia Au whose number is 703-308-6604, group fax is 703-872-9306, and Tech center 2600 customer service office number is 703-306-0377.

AB

Anand Bhatnagar

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September 20, 2004


SAMIR AHMED
PRIMARY EXAMINER